

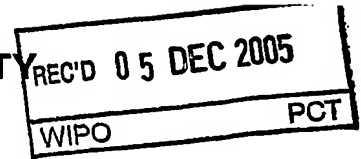
## PATENT COOPERATION TREATY


## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference P64060PC00		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/NL2004/000566		International filing date (day/month/year) 12.08.2004		Priority date (day/month/year) 13.08.2003
International Patent Classification (IPC) or national classification and IPC C23C16/513, C23C16/52				
Applicant OTB GROUP B.V.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 16 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  13.06.2005		Date of completion of this report  01.12.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer  Patterson, A  Telephone No. +31 70 340-3421		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/NL2004/000566

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**Box No. 1 Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-11 received on 15.06.2005 with letter of 13.06.2005

**Claims, Numbers**

1-30 received on 15.06.2005 with letter of 13.06.2005

**Drawings, Sheets**

1/6-6/6 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-30
	No: Claims	
Inventive step (IS)	Yes: Claims	1-30
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-30
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: US 6 397 776 B

D4: US 2003/0097988 A

D1, regarded as the closest prior art, shows a method for applying a coating on a substrate and a corresponding apparatus in which a plurality of expanding thermal plasma (ETP) sources are provided in a process chamber. The ETP sources are spaced such that the plasma plumes they produce will overlap (see col.3, lines 18-21; col.6, lines 22-26), which has hitherto been considered desirable in order to achieve a more uniform coating. D4 discloses a similar method and apparatus.

The method of claim 1 and the apparatus according to claim 16 differ from the prior art in that the at least two ETP sources are spaced so that their plasma plumes do not substantially influence each other, in the sense that the shapes of the plasma plumes substantially correspond to the shape of a single plasma plume in a corresponding process chamber under corresponding process conditions. Since this feature is not disclosed by the prior art, the subject-matter of claims 1 and 16 is new in the sense of Article 33(2) PCT.

The claimed method and apparatus apparently solve the problem of providing a uniform thickness of deposition on the substrate by avoiding interference between neighbouring plasma plumes. It must be observed that the independent claims lack clarity (Article 6 PCT) because they are both largely characterised by the desired result which is to be achieved, i.e. a substantially uniform layer thickness on a relevant part of the substrate, whereas the claims do not indicate how having two or more separate plasma plumes, each with its own, for example Gaussian, deposition profile, can lead to a uniform layer thickness. However the claimed subject-matter is not suggested by the available prior art and thus seems to involve an inventive step in the sense of Article 33(3) PCT.

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(SEPARATE SHEET)**

International application No.

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Further, preferred embodiments are describe in the dependent claims 2-15 and 17-30.